

ORDINANCE NO. A- 584

AN ORDINANCE ESTABLISHING STANDARDS AND SPECIFICATIONS FOR  
THE CONSTRUCTION OF DRAINS, DRAINAGE WAYS AND STORM SEWERS  
IN THE CITY OF CONWAY, ARKANSAS: DECLARING AN EMERGENCY:  
AND FOR OTHER PURPOSES

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CONWAY, ARKANSAS:

SECTION ONE (1). GENERAL REQUIREMENTS. The capacity of all storm sewers, drains and drainage ways shall be determined by using a rational approach, giving due consideration to rainfall intensity, soil characteristics, proper runoff coefficients, slope, and the hydraulic properties of the pipes and conduits used. Interceptors should be placed at intervals not to exceed six hundred (600) linear feet, except under special conditions as approved by the City Engineer. The designed rainfall intensity shall be based on four inches per hour except in new subdivisions, where the rainfall intensity shall be based on a time of concentration of at least once in a ten year expectancy as determined from local rainfall records. The minimum design velocity shall not be less than two and one-half feet per thousand, and the maximum design velocity shall not exceed ten feet per second.

SECTION TWO (2). APPROVAL OF PLANS AND SPECIFICATIONS.

(A). Specifications. Specifications shall be defined as collectively all of the terms and stipulations contained in the written portion of information furnished. One complete set of specifications shall be submitted to the City Engineer by the owner's engineer (hereinafter referred to as "engineer") prior to receiving contractor's bids on the proposed improvements. The main body of the specifications shall include such information and requirements as is necessary to produce and define a first class, workmanlike job.

(B). Plan. The plan shall be defined as collectively all of the drawings pertaining to the contract and made a part thereof, and also such supplementary drawings as the engineer may issue from time to time in order to clarify the drawings, or for the purpose of showing changes in the work, or for showing details not previously shown.

One set of complete plans shall be submitted to the City Engineer prior to receiving contractors' bids on the proposed improvements. The plan shall show the plan, profile and cross-section of the proposed improvements and shall specifically show drainage structures as to location, size, material and gradients.

(G) City Approval. The City Engineer has the option to require of the engineer copies of all notes and calculations pertaining to any information or drawings contained in the plans and specifications. The City Engineer shall write a letter of approval for the plans and specification when said plans and specifications meet the requirements of the City. The City Engineer shall approve or disapprove these plans and specifications within ten(10) days or the same shall be automatically approved.

SECTION THREE (3). MATERIALS AND METHODS FOR CONSTRUCTING EXCAVATIONS AND FILLS, PIPE CULVERTS AND STORM SEWERS, CATCH BASINS, DROP INLETS AND JUNCTION BOXES AND OTHER STRUCTURES.

(A). Materials

(1). Fills, Materials used in the construction of compacted fills for storm sewers and other drainage facilities shall be composed of earth, sand, gravel, or other suitable materials meeting the approval of the City Engineer.

(2). Pipe. Pipe used in the construction of culverts and storm sewers, shall be reinforced concrete or bituminous coated corrugated metal pipe or pipe arch with paved invert.

(a) Reinforced Concrete Pipe. Reinforced concrete pipe shall conform to ASTM Designation C76

(b) Bituminous Coated Corrugated Metal Pipe or Pipe Arch with Paved Invert. Bituminous coated corrugated metal pipe or pipe arch with paved invert shall be Armco Standard or equal, and shall meet requirements for H-15 truck loading plus impact.

(3). Rings and Covers and Grates and Frames. Cast iron shall be of good quality and of such character that it shall make the metal of the castings strong, tough, and of even grain. A11

castings shall be smooth, free from scale and cracks and other defects that might render them unsuitable for the use for which they are intended.

(a) Rings and Covers. Rings and covers shall be of two main types: sidewalk and street type. The combined weight of the standard sidewalk type shall be approximately One Hundred Twenty-five pounds, total, and the standard combined weight of the street type shall be approximately Two Hundred Fifty pounds total.

(4). Portland Cement Concrete for Appurtenances. Portland Cement concrete for appurtenances shall have a minimum compressive strength of Not less than Two Thousand pounds per square inch in Twenty-eight days. Its maximum slump in place shall not exceed four inches. Concrete shall be mixed in accordance with current ASTM requirements.

(B). Methods

(1). Excavation and Fills; Pipe Culverts and Storm Sewers. All excavation shall be carried to an elevation where foundation materials are satisfactory to the engineer, regardless of elevations shown on the plans. Pipe culverts and storm sewers shall be placed either by hand or by mechanical means, and shall be laid and back filled as specified herein.

(a) Forming Bed for Pipe. Where pipe is laid below the ground line, the trench shall be excavated to the required depth and the minimum width practicable for the existing working conditions. The bottom of the trench shall be shaped to conform to the bottom of the pipe, and to afford a uniform bearing throughout its entire length. Recesses shall be excavated to receive the bells where bell and spigot pipe is used. When rock is encountered in the trench, it shall be removed to a minimum depth of six inches below the pipe, and this excess depth shall be re-filled with

~~with~~ suitable material and stabilized. Where pipe is not laid in a trench, a uniform, firm bed shall be made as specified above.

(b) Laying the Pipe. Pipe culverts and storm sewers shall be laid to the lines and grades established by the engineer, with the hubs and bells upgrade. Spigot ends shall be fully entered into the adjacent hubs or bells. All joints shall be cemented with a ratio of 1:3 Portland cement mortar. The insides of all joints shall be wiped and finished smooth. When corrugated metal pipe or pipe arch sections are used, they shall be joined with a band made of the same material as the pipe. Any pipe which is not in true alignment or which shows settlement after laying shall be taken up and re-laid by the contractor.

(c) Backfilling. The material used for backfilling pipe culverts and storm sewers under any improvement shall be at optimum moisture, and shall be free from large lumps, clods or rocks, and it shall be placed alongside the pipe culverts or storm sewers in layers of approximately eight inches and thoroughly compacted to an elevation equal to the spring line of the pipe. Subsequent layers of backfill material shall be placed uniformly over the contour of the pipe in layers not to exceed eight inches, and shall be compacted for the entire depth of the trench. Backfill compaction by puddling or jetting with water shall not be permitted unless it is nonplastic materials.

(2). Catch Basins, Drop Inlets, and Junction Boxes.

Concrete floors for catch basins, drop inlets and junction boxes shall be poured at least twenty-four hours prior to beginning construction on the walls. Floors shall be constructed to the full outside dimensions indicated in the plans. Walls shall be so constructed as to form a tight joint with the floor and around all inlets and the outlet pipes.

Walls may be constructed of reinforced concrete meeting current ASIM requirements or concrete blocks laid and filled with concrete, as required by the engineer.

SECTION FOUR (4). BONDS. Contractors submitting bids shall furnish satisfactory **proof of the carriage** of performance and maintenance bonds, as follows:

(A). Performance Bond. This bond shall be optional except with improvement districts. This bond shall be in accordance with the State of Arkansas Legislature Act No. 351 of 3.953; must be made by a satisfactory surety company, organized in conformity with the laws **and/or** doing business in the State of Arkansas. The bond shall be in an amount of 100% of the contract price as surety for the faithful performance of all work done under the contract, and for the payment of all persons performing labor **and/or** furnishing materials in connection with the work.

(B). Maintenance Bond. The contractor shall furnish the City with a five year maintenance bond in the amount of 50 per cent of all pavement items, which shall go into full force and effect from the date of the City's acceptance of the project in full. The City and/or the engineer shall make periodic inspections of the project and shall notify the contractor of any failures that require immediate replacement. Prior to the end **of** the five year period covered by the maintenance bond, the City officials with the engineer shall **make** an inspection of the work and shall notify the contractor of all defects which must be corrected and accepted by the City before **releasing** the contractor from his bond and acceptance by the City for future maintenance.

SECTION FIVE (5). PENALTY. Should any project willfully be started by **a** person, firm, organization or engineer before receiving approval from the City, said person, firm, organization or engineer shall be subject to a fine of not less **than \$500.00** nor more than \$1,000.00 for each offense and said project **stopped** until officially approved.

SECTION SIX (6). VALIDITY AND SEPARABILITY. If any clause or section, sentence, or phrase of this ordinance is for any reason

held to be invalid or unconstitutional by the courts, such decision or decisions shall not effect the validity or constitutionality of the remaining portions of this ordinance.

SECTION SEVEN (7). EMERGENCY. It has been determined that the lack of standards and specifications for drains, drainage ways and storm sewers, and other improvements within the area of jurisdiction of the City of Conway, Arkansas, including improvement districts, covering design, approvals, materials, construction materials, construction methods, and maintenance of such drains, drainage ways and storm sewers creates a condition hazardous to the public, health and safety of the citizenry of this City; that this ordinance will correct such condition, therefore an emergency is hereby declared to exist and this ordinance being necessary for the public peace, health and safety, shall be in full force and effect from and after its passage and approval and all ordinances and parts of ordinances in conflict herewith are hereby repealed.

PASSED: March 26, 1974

APPROVED : \_\_\_\_\_  
Mayor

ATTEST : \_\_\_\_\_  
Clerk-Treasurer